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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WYROZEBSKI LEE, KATARZYNA I

ART UNIT	PAPER NUMBER
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1714

7

DATE MAILED: 10 23 2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/830.060

Applicant(s)

SAKAI ET AL.

Examiner

Katarzyna W. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 6, 7, 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 6, use of term "type" renders claim indefinite, see Ex Parte Copenhaver, POBA, 1955, 109 USPQ 118-119.

With respect to claims 7 and 17, use of term "based" is also indefinite.

Claim Objections

3. Claims 1, 4, 18 are objected to because of the following informalities: use of parenthesis in the claims is not appropriate. Appropriate correction is required.

Note

The scope of the claim 8 is not clear. It appears that the applicant refers to the curable resin as acrylate based resin and plasticizer at the same time. It is not clear if these two resins are

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one the same thing. For more prompt prosecution of the case, the examiner will treat methacrylate polymer as plasticizer as well.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-8, 10-12, 14, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ittmann (US 5,882,560).

The prior art of Ittmann discloses composition comprising polymethyl methacrylate and inorganic fillers, wherein the resulting composition resembles granite.

According to the claims of the prior art of Ittmann, the inorganic filler is utilized in the amount of 40-75 parts by weight. There are two types of the fillers wherein one is stratified silicate having particle size of 250-500 microns and non-metallized filler, such as crystobillite, having particle size of ≤ 100 microns. 250-500 microns corresponds to 28-65 mesh while 100 microns is equivalent to 150 mesh.

Pigments in the prior art of Ittmann are utilized in the amount of up to 2 wt% and dyes in the amount of 0-0.5.

The specification further teaches that the liquid methacrylate component comprises polymer precursor, which comprises of already polymerized monomers and which can contain about 5% of polymer. In addition the prior art of Ittmann utilizes monomers of methyl methacrylate esters (col. 2). Crosslinking monomers, also have acrylate functionality.

Stratified silicates, unless exfoliated, naturally occur as aluminosilicate aggregates. Such particles have silver or gold luster. Stratified silicates are utilized in the amount of 1-35 pbw.

Second type of filler, which is non-metallic filler preferably includes quartz, aluminum hydroxide or alumina. However, others such as glass powder or silica are also taught. The

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preferred fillers are transparent. The second filler will obviously make up the difference, in the total amount of the filler of the composition, which would be 5-40 pbw. Therefore, when calculating the ration between the larger filler and smaller filler is will be 1:1 to 1:6.

In the prior art of Ittmann silanes can be utilized as coupling agents to increase the adhesion between the polymer and the filler.

Although the prior art of Ittmann does not disclose the Vickers hardness nor radius curvature based on platy body having thickness of 3-15 mm, it is examiner's position that since the composition of Ittmann also comprises polymethyl methacrylate with inorganic fillers, and wherein the amount of fillers and particles overlap with those of the present invention, the properties would also overlap.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize the prior art of Ittmann and thereby obtain at applicant's invention. Both the prior art of Ittmann and the present invention disclose composition comprising resin such as methacrylate resin filler with two inorganic fillers having different particle sizes in the amounts that overlap. As a result a pleasing granite-like article can be achieved.

8. Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable Ittmann (US 5,882,560) over as applied to claims 1-8, 10-12, 14, 17-19 above, and further in view of Schock (US 6,177,179 B1).

The discussion of the disclosure of the prior art of Ittmann from paragraph 7 of this office action is incorporated here by reference.

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The difference between the present invention and the disclosure of Ittmann is the amount of the polymer as well as presence of flame retardants.

With respect to the above difference, the prior art of Schock discloses method for making composition having granite-like appearance. The composition is utilized to make floor coverings or different types of wall panels.

Composition of Schock also comprises acrylate polymer with fine particles such as quartz, cristobalite and the like that are transparent. The filler is utilized in the amount of 50-90% by volume, and obviously the polymer will occupy the balance of 10-50 % by volume.

In addition, the prior art of Schock further teaches or suggests that a flame retardant can be added in order to improve flame retardancy of the composition.

Composition having as low as 10% of the polymeric component is shown to still provide an effective granite-looking composition, which can be utilized in making floor coverings or wall panel.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize lower amounts of the polymer in the prior art of Ittmann, as low as 10% and thereby obtain the claimed invention. Addition of flame retardant further improves compositions resistance to burning. As it is shown in the prior art of Ashton, composition comprising such amounts of the polymer component will still result in effective granite-looking composition, which can be utilized in making floor coverings or wall panel.

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9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ittmann (U.S. 5,882,560) as applied to claims 1-8, 10-12, 14, 17-19 above, and further in view of Ashton (WO 93 10183).

The discussion of the disclosure of the prior art of Ittmann from paragraph 7 of this office action is incorporated here by reference.

The difference between the present invention and the disclosure of the prior art of Ittmann is teaching of water-jetting step.

With respect to the above difference, the prior art of Ashton discloses composition for construction materials such as sanitary or kitchen tops and surfaces having pleasing appearance.

The composition comprises acrylate type monomer and finely divided filler, such as silica or cristobalite. In addition the composition of Ashton contains diene type polymer.

The composition, once formed into an article is subjected into a process, where jet of water is applied to the article. Although the water jetting in the prior art of Ashton is used to study thermal shock, it would have been obvious that it will compress the material as well, since the impinging water is under pressure.

The composition of the prior art of Ashton comprises the same basic components, which include inorganic fillers and methacrylate polymer. It is also utilized for the same purpose, which is building material.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention, having the two references at hand to utilize water jetting with the composition of Ittmann and thereby obtain the present invention. Water

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jetting of the composition of Ittmann would achieve the same purpose as that in the prior art of Ashton, without adversely affecting the final product.

10. Claims 8 and 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ittmann (US 5,882,560) as applied to claims 1-8, 10-12, 14, 17-19 above, and further in view of Cohen (US 6,432,329 B1).

The discussion of the disclosure of the prior art of Ittmann from paragraph 7 of this office action is incorporated here by reference.

The difference between the present invention and the disclosure of the prior art of Ittmann is teaching of antibacterial agent and plasticizer.

With respect to the above difference, the prior art of Cohen discloses composition, which can be utilized in fabricating tiles, countertops and the like.

One of the resins that can be utilized in the composition of Cohen is methyl methacrylate resin in example 4 of the prior art.

The specification further teaches use of plasticizing resins, inorganic fillers, pigments and pharmaceuticals such as antibacterial agents.

The fillers of the prior art of Cohen also include silica, quartz or alumina. According to the prior art of Cohen, these can be utilized in decorative articles and contribute to transparency of the product.

The compositions taught by both prior art disclosure contain methacrylate type polymer, where inorganic filler is taught to be transparent such as silica or quartz. These components of

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the both prior arts overlap with each other also in the aspect that they are producing floor coverings or counter tops having pleasing appearance.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention, having the two disclosures at hand, to utilize plasticizer and antibacterial agent of Cohen in the disclosure of Ittmann and thereby obtain the claimed invention. Adding these two components to the prior art of Ittmann would still result in composition that can be utilized in counter tops or floor coverings. The composition would in addition have antibacterial properties.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna W. Lee whose telephone number is (703) 306-5875. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (703) 306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

KIWL
October 17, 2002

EDWARD J. CAIN
PRIMARY EXAMINER
GROUP 1500

